17. The method of claim 13 wherein the at least one DNA sample to be analyzed is prepared from human tissue, wherein the human tissue is selected from the group of human tissue consisting of blood, semen, vaginal cells, hair, saliva, urine, bone, buccal sample, amniotic fluid containing placental cells or fetal cells, and mixtures of any of the tissues listed above.

18. A kit for simultaneously analyzing a set of loci of genomic DNA comprising oligonucleotide primers for co-amplifying a set of loci of the genomic DNA to be analyzed, wherein the set of loci comprises short tandem repeat loci which can be co-amplified, the primers are in one or more containers, the genomic DNA is human genomic DNA, and the loci comprise D3S1358, D5S818, D7S820, D8S1179, D1S317, D16S539, D18S51, D21S11, HUMCSF1PO, HUMFIBRA, HUMTH01, HUMTPOX, AND HUMvWFA31.

19. The kit of claim 18, wherein all of the oligonucleotide primers in the kit are in one container.

20. The kit of claim 18, wherein at least one of the primers for co-amplifying a locus in the set of loci has a sequence selected from one of the groups of primer sequences consisting of:

SEQ ID NO:62, SEQ ID NO:63, SEQ ID NO:101, and SEQ ID NO:102, for D18S51;

SEQ ID NO:64 and SEQ ID NO:65, for D21S11,

SEQ ID NO:66, SEQ ID NO:67, SEQ ID NO:38, and SEQ ID NO:103, for HUMTH01

SEQ ID NO:68, SEQ ID NO:69, and SEQ ID NO:106, for D3S1358

SEQ ID NO:70, SEQ ID NO:71, and SEQ ID NO:107,for HUMFIBRA

SEQ ID NO:72 and SEQ ID NO:73, for HUMTPOX

SEQ ID NO:74, SEQ ID NO:75, and SEQ ID NO:104, for D8S1179

SEQ ID NO:76 and SEQ ID NO:40, for HUMvWFA31

SEQ ID NO:77, SEQ ID NO:78, and SEQ ID NO:98, for HUMCSF1PO

SEQ ID NO:29, SEQ ID NO:79, and SEQ ID NO:97, for D16S539

SEQ ID NO:80 and SEQ ID NO:81, for D7S820

SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:82, and SEQ ID NO:83, for D13S317

SEQ ID NO:84 and SEQ ID NO:85, for D5S818.

21. The kit of claim 18, further comprising reagents for at least one multiplex amplification reaction.

22. The kit of claim 18, further comprising a container having an allelic ladder.

23. The kit of claim 22, wherein each rung of the allelic ladder and at least one oligonucleotide primer for each of the loci in the set each have a fluorescent label covalently attached thereto, and at least two of the oligonucleotide primers have a different fluorescent label covalently attached thereto than other primers in the container.

24. A method of simultaneously determining the alleles present in a set of loci from one or more DNA samples, comprising:

(a) obtaining at least one DNA sample to be analyzed;

(b) selecting a set of loci of the at least one DNA sample, comprising at least thirteen short tandem repeat loci which can be co-amplified, wherein at least four of the at least thirteen short tandem repeat loci are selected from the group comprising: D5S818, D7S820, D13S317, D16S539, D18S51, D21S11, D3S1358, D8S1179, HUMFIBRA, HUMCSF1PO, HUMTPOX, HUMTH01, and HUMvWFA31;

(c) co-amplifying the loci in the set in a multiplex amplification reaction, wherein the product of the reaction is a mixture of amplified alleles from each of the co-amplified loci in the set; and

(d) evaluating the amplified alleles in the mixture to determine the alleles present at each of the loci analyzed in the set within the DNA sample.

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